

Claims

1. A method of establishing a communication between at least two end-points, comprising: receiving an identifier of a calling number and an identifier of an action; establishing a communication link to the calling number; establishing a communication link in dependence on said action; and connecting the communication links in an IP domain.  
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2. A method according to claim 1 wherein the step of connecting the communication links is performed by controlling an IP routing device.
3. A method according to claim 2 wherein the IP routing device may establish a  
10 PSTN connection to the calling number.
4. A method according to claim 3 wherein the action is to establish a telephone call to a called number, wherein the IP routing device establishes a PSTN connection to the called number and connects the established PSTN connections to the calling number and the called number in the IP domain.
- 15 5. A method according to claim 4 wherein the IP routing device is controlled to establish the PSTN connections to the calling party and the called party at terminals thereof, the IP routing device being further adapted to connect said terminals internally.
- 20 6. A method according to claim 3 wherein the action is to access a streamed service, wherein the IP routing device connects the PSTN connection to the streamed service in the IP domain.
7. A method according to claim 6 wherein the IP routing device is controlled to establish the PSTN connection to the calling party, the IP routing device being further adapted to route said PSTN connection to a mixing server adapted to receive the streamed service.  
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8. A method according to claim 3 wherein the action is to establish a PSTN connection to a plurality of called numbers, wherein the IP routing device connects the plurality of called numbers to the calling number in the IP domain.

9. A method according to claim 8 wherein the IP routing device is controlled to establish the PSTN connections to the calling party and the called parties at terminals thereof, the IP routing device being further adapted to route said connections to a mixing server in the IP domain.
- 5 10. A method according to any preceding claim wherein the step of receiving an identifier of a calling number comprises identifying the originating number of a request for the action.
11. A method according to any preceding claim wherein step of receiving an identifier of a calling number comprises extracting the calling number from a request for the action.
- 10 12. A method according to claim 12 request may contain an identifier which maps to the calling number.
13. A method according to any one of claims 4 to 12 wherein the identifier of the action comprises the called number, the method comprising extracting the called number from a request for the action.
- 15 14. A method according to claim 13 wherein the request contains an identifier which maps to the called number.
15. A method according to claim 14 wherein the request message may be received from any one of an e-mail client, a web client, an SMS client, a SOAP/HTTP client, or a WAP client.
- 20 16. A method according to any one of claims 2 to 15 IP routing device is preferably controlled using SIP messages.
17. A method according to any preceding claim further comprising receiving a request to establish a call connection at a web server, said request including the identifier of the calling number and the identifier of the action; verifying said request at the web server; transmitting said request in XML message format to a call controller controlling an IP router using SIP message, establishing the communication link to the calling number at the IP router under the control of the call controller.

18. A method according to claim 17 when dependent upon any one of claims 4 to 16  
any further comprising establishing the communication link to the called number  
at the IP router under the control of the call controller, and controlling the IP router  
to connect the established communication links internally.
- 5    19. A method according to claim 17 when dependent upon any one of claims 6 to 16  
wherein the IP routing device may route said PSTN connection to a mixing server  
adapted to receive the streamed service.
20. A method according to claim 17 when dependent upon any one of claims 8 to 16  
further comprising establishing communication links to the called numbers at the  
10    IP router under the control of the call controller, and controlling the IP router to  
connect the established communication links to a mixer in the IP domain, and  
mixing the established communication links under the control of the call controller.
- 15    21. A communication element adapted to establish a communication between at least  
two end-points, comprising: means adapted for receiving a request including an  
identifier of a calling number and an identifier of an action; means adapted for  
establishing a communication link to the calling number; means adapted for  
determining a communication link in dependence on said action; and means  
adapted for connecting the communication links in an IP domain.
22. A communication element according to claim 21, wherein the request is an XML  
20    message, the means adapted for establishing a communication link to the calling  
number and the means adapted for connecting the communication links in an IP  
domain comprising control means for transmitting SIP messages to an IP router.
- 25    23. A communication element according to claim 22, wherein if the action is to  
establish a call between a calling party and a called party, the SIP messages  
instruct the IP router to establish a PSTN connection to each party and connect  
such connections internally.
24. A communication element according to claim 22, wherein if the action is to  
establish a call between a calling party and multiple called parties, the SIP

messages instruct the IP router to establish a PSTN connection to each party and route such connections to a mixer in the IP domain.

25. A communication element according to claim 22, wherein if the action is to establish a connection for the calling party to a streamed service, the SIP

5 messages instruct the IP router to establish a PSTN connection to the calling party and route such connections to a mixer in the IP domain adapted to receive the streamed service.

26. A communication element according to any one of claims 21 to 25 wherein the element is a switching server.

10 27. A communication element adapted to control the establishment of a communication between at least two end-points, comprising: means adapted for receiving a request including an identifier of a calling number and an identifier of an action; means adapted for verifying the request, and means adapted to transmit said request in XML format messages to an element for establishing the 15 communication.

28. A communication element according to claim 27 wherein the request comprises a message from any one of an e-mail client, a web client, an SMS client, a SOAP/HTTP client, or a WAP client

29. An IP router adapted to establish of a communication between at least two end- 20 points, the router being adapted to establish a PSTN communication link to a first end-point, establish a communication link to a second end-point, and connect said established communications internally.

30. A communication system adapted to establishing a communication between at least two end-points, comprising: a control server for receiving a request including an identifier of a calling number of one end-point and an identifier of an action, and adapted to transmit said request in XML format in dependence upon said action, a switching control server for receiving the request in XML format; an IP router operating under the control of SIP messages from the switching control server; the IP router being controlled for establishing a first communication link to 25

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the calling number of the one end-point; wherein the switching controller further controls the IP router to connect the established communication link to the other end-point.

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